

**REMARKS**

Claims 1-27 were pending in this application.

Claims 1-27 have been rejected.

Claims 1, 8, 11, 16-19, and 24-27 have been amended as shown above.

Claim 7 has been cancelled.

Claim 28 has been added.

Claims 1-6 and 8-28 are now pending in this application.

Reconsideration and full allowance of Claims 1-6 and 8-28 are respectfully requested.

**I. REJECTION UNDER 35 U.S.C. § 101**

The Office Action rejects Claims 1-27 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 1, 11, 18, and 26 recite using (i) a projected matrix, (ii) an orthogonal matrix and an upper triangular matrix, or (iii) a projection of a matrix to at least partially isolate a “first portion” of a second signal from a “second portion” of the second signal (where the “first portion” is associated with a first signal and the “second portion” is associated with at least one disturbance). Claims 1, 11, 18, and 26 also recite generating and storing a “model associating the first signal and the isolated first portion of the second signal.”

Claim 27 recites actually using an orthogonal matrix and an upper triangular matrix to at least partially isolate “one or more effects of one or more disturbances in a signal.” Claim 27 also recites generating and storing a “model associated with the signal that has had the one or

more effects of the one or more disturbances isolated.”

None of these claims can possibly represent a “mathematical algorithm ... with no claimed practical application.” The generation and storage of a model is clearly a practical application. The model is clearly useful (there is no outstanding § 101 rejection of the claims as lacking utility), so Claims 1-27 produce a “useful” result. There is no assertion that the claims produce inconsistent or un-repeatable results, so Claims 1-27 produce a “concrete” result. The claims recite the generation and storage of a model, which clearly represents a “tangible” result. Because of this, Claims 1-27 satisfy the requirement that the claims produce a “useful, concrete and tangible result.”

Moreover, while MPEP § 2106 and the relevant case law require that a claim specify a “practical application,” the specific requirement is that the claims “must set forth a practical application ... to produce a real-world result.” (*MPEP § 2106*)(underlining added). This does not require that a practical application be specified for the real-world result in the claims. The only requirement is that a practical application be provided in the claims to produce a real-world result. While Claims 1-27 may not specify how the generated “model” is used after storage, this is irrelevant since the model is a real-world result. The Applicant is not required to further specify a practical application for the model (the real-world result).

Accordingly, the Applicant respectfully requests withdrawal of the § 101 rejection.

## II. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claim 27 under 35 U.S.C. § 103(a) as being unpatentable over

U.S. Patent Publication No. 2005/0015205 to Repucci et al. ("*Repucci*") in view of Swinnen et al., "Detection and multichannel SVD-based filtering of trigeminal somatosensory evoked potentials" ("*Swinnen*"). The Office Action rejects Claims 1-5, 11-14, 18-21, and 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0061035 to Kadambe et al. ("*Kadambe*") in view of *Repucci* and *Swinnen*. These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP* § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (*Fed. Cir.* 1992)). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (*Fed. Cir.* 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (*Fed. Cir.* 1984)). Only when a *prima facie* case of obviousness is established does the burden shift to the Applicant to produce evidence of nonobviousness. (*MPEP* § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (*Fed. Cir.* 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (*Fed. Cir.* 1993)). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Applicant is entitled to grant of a patent. (*In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (*Fed. Cir.* 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (*Fed. Cir.* 1985)).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success cannot be based on the Applicant's disclosure. (*MPEP* § 2142).

Claims 1, 11, 18, 26, and 27 have been amended to recite the limitations previously contained in Claim 7. Because the Office Action indicated that Claim 7 is allowable over the cited art, Claims 1, 11, 18, 26, and 27 as amended (and their dependent claims) are also patentable over the cited art.

Claims 8, 16, and 24 have also been amended as shown above. Based on the indication that Claims 8, 16, and 24 are allowable over the cited art, the Applicant respectfully submits that Claims 8, 16, and 24 as amended (and their dependent claims) are patentable over the cited art.

Accordingly, the Applicant respectfully requests withdrawal of the § 103 rejections and full allowance of Claims 1-5, 11-14, 18-21, 26, and 27.

### **III. NEW CLAIM**

The Applicant has added new Claim 28. The Applicant respectfully submits that no new matter has been added. At a minimum, the Applicant respectfully submits that Claim 28 is patentable for one or more reasons discussed above. The Applicant respectfully requests entry and full allowance of Claim 28.

SUMMARY

The Applicant respectfully asserts that all pending claims in this application are in condition for allowance and respectfully requests full allowance of the claims.


If any issues arise or if the Examiner has any suggestions for expediting allowance of this application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@munckbutrus.com*.

The Applicant has included the appropriate fee to cover the cost of this Amendment and Response. The Commissioner is hereby authorized to charge any additional fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

MUNCK BUTRUS CARTER, P.C.

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